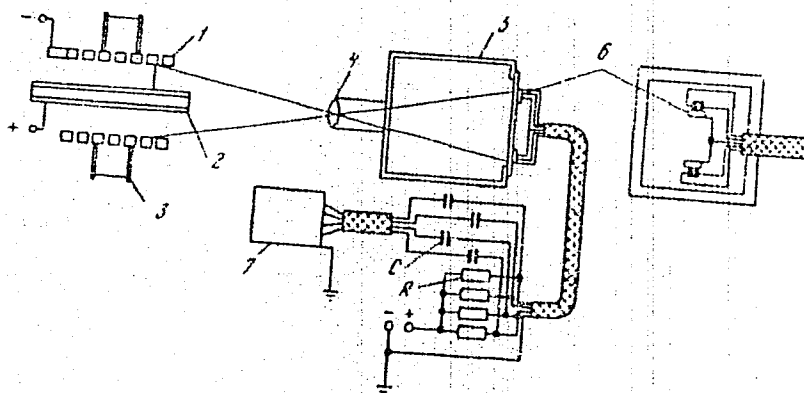USSR

YUSHKOV, V. I. et al., Khimiya i Fizika Nizkotemperaturnoy Plazmy, Moscow University Press, 1971, pp 62-64

ground glass as shown by 6. Each of these resistors is connected in series to a load resistor R and a DC voltage source. The rotating arc is peri- odically projected on the photoresistors, with a resultant increase in the drop in voltage across load resistors R. The variable component of the 2/3

- 82 -

USSR

YUSHKOV, V. I. et al., Khimiya i Fizika Nizketemperaturnoy Plasmy, Moscow
University Press, 1971, pp 62-64

voltage from the load resistors is sent through capacitors C to the loops
of oscilloscope 7. Preliminary analysis of materials obtained by this
method shows that the proposed plasmatron design should be suitable for
heating various gaseous and powdered materials. Two figures, bibliog-
raphy of four titles.

3/3

Miscellaneous

USSR

UDC 669.71.004.2

YUSHKOV, V. L.

"Control Operation Experience in Nonferrous Metallurgy"

Translation: The operating experience of the administration of the Lower Volga Okrug of Gosgortekhnadzor [the State Committee of the Council of Ministers for Supervision of Industrial Safety and for Mining Inspection] of the USSR at the Volgograd Aluminum Plant with respect to monitoring and control in the electrolysis and powder metallurgy shops and the nitrogen blowing room is presented.

1/1

USSR

POPOV, V. A., YUSHKOVA, L. K., BOLAVINA, I. G., CHERKASOV, N. KH., and
KHARLAMPOVICH, G. D.

"Study of the Solubility of Monosubstituted Quinoline, Isoquinoline, Quinaldine,
and Lepidine Phosphates in Ethanol and Methanol of Different Concentrations"

Abstract: Solubility of monosubstituted quinoline, isoquinoline, quinaldine,
and lepidine phosphates in aqueous-alcoholic mixtures of ethanol and methanol
increases with with temperature increase and with a drop in the concentration
of alcohols. In the 0-10° temperature range the phosphates can be arranged in
the following order of decreasing solubility; lepidine phosphate isoquinoline
phosphate quinoline phosphate quinaldine phosphate. In the 30-50° range the
order is: isoquinoline phosphate quinaldine phosphate lepidine phosphate
quinaldine phosphate. These differences in their solubility may be used to
obtain pure products.

1/1

Acc. Nr: ЛР0038032⁻   Ref. Code: UR 0056

INVESTIGATION OF THE INSTABILITY OF A PLASMA
IN A MIRROR TRAP

Kanayev, B. I.; Yushmanov, Ye. Ye.

The ion-cyclotron instability observed in the ΠP-5 installation differs in many respects from instabilities of the same type encountered in experiments with other mirror traps. This implicates a principally different nature of this instability. In the present work the most characteristic feature which is considered is the wave structure of the unstable oscillations; in particular an attempt is made to answer the question whether the oscillations are transverse of possess $k_{||} = 0$. The method employed for this purpose is based on a determination of orientation of external magnetic fields of the wave and their phasing relative to the electric potential wave. For $k_{||} = 0$ a characteristic feature is the presence of a specific effect related to longitudinal nonuniformity of the plasma cluster. The results are in accordance with those which one would expect for transverse oscillations.

The transverse character of the oscillation indicates that instability in ΠP-5 does

REEL/FRAME
19731073   19

AP0038032

not refer to the Harris type as in case of mirror traps with external injection of neutral particles. Apparently one must also reject the explanation of instability predicted earlier as a result of build-up of transverse oscillations by the drift mechanism or as a result of the nonmaxwellian nature of the distribution function since the observed value of the parameter kp_i is too small for this. The most probable seems to be the explanation proposed recently by Kadomtsev and Pogutse according to which the phenomena observed are negative mass instabilities.

19731074

4

USSR

YUSHMANOV, Yu. I.

"Third-Generation Computer Software"

Tr. N.-i. i proyektn. in-ta po vnedreniyu vychisl. tekhn. v nar. kh-vo
(Works of the Scientific Research and Design Institute on Introducing Com-
puter Technology Into the National Economy), 1970, vyp. 5, pp 3-11 (from
RZh-Kibernetika, No 11, Nov 71, Abstract No 11V784)

Translation: The characteristics of digital computers are briefly pre-
sented by generations characterizing the degree of their development. The
software make-up of digital computers is given as well as the principles
of construction of operational systems, and the functions and make-up of
these systems. It is concluded that there is a tendency at the present
time toward simplification of the structure of technical devices by in-
creasing software. Predictions are made on software development in the
future. V. Mikheyev.

1/1
- 36 -

USSR

YUSIM, G. V.

"On the Problem of Optimum Setting of a Gyroscope to the Meridian During Run-Up of the Gyromotors"

Translation   The author considers the problem of control synthesis for the purpose of minimizing the time of setting a gyrocompass to the meridian. The investigated equations of motion have variable coefficients. The problem is solved by using Pontryagin's principle of the maximum. Since a linear combination of two monotonic functions may have more than two zeros, there is some doubt as to the author's statement on the number of reversals in optimum control being no more than two. Consideration is also given to the problem of determining the minimum possible limitation on control for which the time of damping of the gyroscope is no greater than a predetermined time. A. M. Formal'skiy.

1/1

USSR   UDC 666.113.621'82'46'28;535.34-15

VARSHAL, B. G., YUSIM, L. M., and KNYAZHER, G. B., State Institute of Glass

"Effect of Heat Treatment on the Optical Properties of Titanium-Containing
Aluminosilicate Glasses"

Abstract: The addition of traces of TiO_2 to the system SiO_2-Al_2O_3-CaO-MgO
in the form of a glass causes the absorption edge to shift nonlinearly with
the TiO_2 concentration. The glasses may be divided into these groups based
on the % TiO_2: 1) a homogeneous group, 0 - 3% TiO_2; 2) a heterogeneous group
distinctly opalescent and having a coarse structure, 4 - 8%; and 3) a hetero-
geneous fine-grained group which darkens on low temperature heat treatment,
9 - 20% TiO_2. The spectra in the range 300-1500 millimicrons are shown for
members of the 2° and 3° groups for heat treatment at temperatures of 650 to
950°C. In general, the absorption increases with increasing temperature of
treatment and % TiO_2. Group 3 exhibited the greatest influence; group 2 less;
and group 1 was essentially not changed. The maximum absorption, dependent on
the selective absorption of chromatophoric centers, is related to the liquefaction
of the glass structure. 1/1

1/2   012   UNCLASSIFIED   PROCESSING DATE--16OCT70
TITLE--INTENSIFICATION OF THE ION EXCHANGE PURIFICATION OF GLYCEROL WATER
SOLUTIONS -U-
AUTHOR-(04)-TUYCHYEV, I.S., RIZAYEV, N.U., YUSIPOV, M.M., INAGAMOV, A.

COUNTRY OF INFO--USSR

SOURCE--IZV. VYSSH. UCHEB. ZAVED., PISHCH. TEKHNOL. 1970, (1), 74-7

DATE PUBLISHED-------70

SUBJECT AREAS--MECH., IND., CIVIL AND MARINE ENGR

TOPIC TAGS--WATER PURIFICATION, ION EXCHANGE, GLYCERINE

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAME--1994/0424   STEP NO--UR/0322/70/000/001/0074/0077

CIRC ACCESSION NO--AT0114704
                        UNCLASSIFIED

CIRC ACCESSION NO--AT0114704

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE DYNAMICS OF THE ION EXCHANGE PURIFICATION OF GLYCEROL WATER SOLNS. IN THE PSEUDOLIQUEFACTION LAYER OF THE IONITE WAS INVESTIGATED. THE SOLNS. USED HAD A GLYCERIN CONTENT OF 11PERCENT. CA PRIME POSITIVE POSITIVE AND MG PRIME POSITIVE POSITIVE IONS AT 0.98 MG-EQUIV-L., FREE FATTY AND MINERAL ACIDS AT 3.28 MG-EQUIV-L. THE SORPTION PROCESS WAS INVESTIGATED IN BOTH CYLINDRICAL AND CONICAL COLUMNS. RESULTS SHOWED THE CONICAL ONES WITH SMALL ANGLE OF CONICITY TO BE THE MOST EFFICIENT.   FACILITY: TASHKENT. POLITEKH. INST., TASHKENT, USSR.

UNCLASSIFIED

TITLE--INTERACTION AND DISTRIBUTION OF IMPURITIES DURING THE GROWTH OF
   SILICON STUDIED BY USING TUNNEL P-N JUNCTIONS -U-
AUTHOR--SAYDOV, M.S., YUSOPOVA, M.K.

COUNTRY OF INFO--USSR

SOURCE--FIZ. TEKH. POLUPROV. 1970, 4(2), 252-5

DATE PUBLISHED-------70

SUBJECT AREAS--PHYSICS, ELECTRONICS AND ELECTRICAL ENGR.

TOPIC TAGS--SOLID STATE PHYSICS, SILICON FILM, PN JUNCTION, SEMICONDUCTOR
   IMPURITY, TUNNEL DIODE, TUNNEL CURRENT

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAME--1988/0287   STEP NO--UR/0449/70/004/002/0252/0255

CIRC ACCESSION NO--AP0105359
                           UNCLASSIFIED

UNCLASSIFIED

CIRC ACCESSION NO--AP0105359
ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. CHANGES IN THE NATURE AND CONCN.
OF IMPURITIES IN THIN LAYERS OF SI GROWN FROM METALLIC SOLNS. WERE DETD.
WITH THE AID OF THE VOLTAGE-CURRENT CHARACTERISTICS OF SI TUNNEL PN
JUNCTIONS PREPD. WITH THE HELP OF VARIOUS ALLOYS. THUS, SI TUNNEL
DIODES HAVING A RATIO OF THE EXTREMUM CURRENTS OF I SUBMAX.- I SUBMIN.
EQUALS 4-5 WERE PREPD. (AT 650DEGREES) FROM THE ALLOYS CU PLUS SN PLUS
B, CU PLUS IN PLUS B, AND AU PLUS IN PLUS B, THESE BEING RICH IN AU OR
CU, RESP. IN SPITE OF THE SATN. OF THE RECRYSTN. LAYER WITH AU OR CU,
THESE DIODES HAVE RELATIVELY SMALL EXCESS CURRENTS, WHICH CAN BE
ATTRIBUTED TO THE SIGNIFICANT CHANGES IN THE DEEP LEVELS OF CU AND AU IN
THE FORBIDDEN BANDS OF SI. ACCORDING TO THE PHASE DIAGRAMS FOR THE
SYSTEMS CU-IN, CU-SN, AND AU-IN, INTERMETALLIC COMPDS. ARE FORMED, AND
TAKING ACCOUNT OF THE FACT THAT IN AND SN ARE MORE SOLN. IN SOLID SI
THAN ARE CU AND AU, IT IS REASONABLE TO CONCLUDE THAT AU OR CU CONTAINED
IN THE RECRYSTN. LAYERS OF THESE DIODES IS CHEM. BOUND TO THE IN AND SN.
IN TUNNEL DIODES PREPD. AT 580-660DEGREES FROM AN ALLOY OF AL PLUS 2
WT. PERCENT B IN SI, ALL WITH THE SAME DEGREE OF DOPING BY AS OR P, THE
D. OF THE DIRECT TUNNEL CURRENTS WAS GREATER THAN WITH DIODES PREPD.
FROM SI DOPED WITH AS. THIS IS ASSOCD. WITH THE FACT THAT P MARKEDLY
INCREASES THE SOLY. OF B IN SOLID SI. A LARGE NO. OF PN JUNCTIONS ON
DEGENERATE SI WERE PREPD. TO DET. THE EFFECT OF P AND CU ON THE SOLY. OF
AL IN SI.

UNCLASSIFIED

3/3   028   UNCLASSIFIED   PROCESSING DATE--11SEP70
CIRC ACCESSION NO--AP0105359
ABSTRACT/EXTRACT--THE VOLTAGE-CURRENT CHARACTERISTICS OF THESE DIODES
 SHOWED THAT PN JUNCTIONS OBTAINED AT 580DEGREES BY THE FUSION OF AL IN
 SI DOPED WITH AS EXHIBIT LARGER REVERSE TUNNEL CURRENTS THAN DIODES
 DOPED WTH P, WHICH INDICATES THAT P REDUCES THE SOLY. OF AL IN SOLID SI.

UNCLASSIFIED

USSR

UDC 546.799.94

ZVARA, I., BELOV, V. Z., DOMANOV, V. P., KOROTKIN, YU. S., CHELNOKOV, L. P., SHALAYEVSKIY, M. R., SHCHEGOLEV, V. A., and YUSSONUA, M.

"Chemical Isolation of Kurchatovium"

Leningrad, Radiokhimiya, Vol 14, No 1, 1972, pp 119-122

Abstract: Earlier it was shown that during the irradiation of 242_{Pu} with 22_{He} ions with energies of 113-119 mev (for z = 104), a short-lived, spontaneously fissionable nuclide was detected whose chemical characteristics corresponded to the characteristics of elehafnium (Ku). The half lives of 259_{Ku} and 260_{Ku} are about 4.5 and 0.1 sec respectively. For these experiments the target film of plutonium oxide (95; 242_{Pu}) with a density of 0.8 mg/cm² was irradiated with 22_{He} ions with an energy of 119 mev. This produced a maximum yield for the reaction 242_{Pu} (22_{He}, 5n) 259_{Ku}. gaseous nitrogen was passed over the surface of the target then mixed with small amounts of $TiCl_2$ and $SOCl_2$. The slightly volatile tetrachlorides of the radioactive products formed were separated on a chromatograph. A Ge-Li 2π-radiation detector was used to analyze the gas at different points along the column. The isotopes 170_{Hf}, 171_{Hf}, 2_{Be} (the latter the product of 22_{He} reaction with the Al of the target base), 242_{Cn}
1/2

ZVARA, I., et al., Radiokhimiya, Vol 14, No 1, 1972, pp 119-122

and ^{246}Cf (the latter two being products of a transfer reaction). It was found that Na, Cs, Ca, Sr, the lanthanides, Np, Pu, Ru, Rh, and Pd are adsorbed only at significantly higher temperatures than Hf (and also the ekahafnium Ku) whereas the chlorides of In, Sn, Nb, Mo, and Tc are adsorbed only at lower temperatures. Photographs of the expected area of Ku adsorption show tracks of fission products which must be those of the ^{259}Ku with a $t_{\frac{1}{2}} = 4.5$ sec.

2/2

- 15 -

USSR

ZVARA, I., BELOV, V. Z., DOMANOV, V. P., KOROTKIN, Yu. S., CHELNOKOV, L. P., SHALAYEVSKIY, M. R., SHCHEGOLEV, V. A., and YUSSONNUA, M.

"Chemical Isolation of Kurchatovium"

Abstract: Earlier it was shown that during the irradiation of ^{242}Pu with ^{22}Ne ions with energies of 113-119 nev (for z = 104), a short-lived, spontaniously fissionable nuclide was detected whose chemical characteristics corresponded to the characteristics of ekahafnium (Ku). The half lives of ^{259}Ku and ^{260}Ku are about 4.5 and 0.1 sec respectively. For these experiments the target film of plutonium oxide (95% ^{242}Pu) with a density of 0.8 mg/cm^2 was irradiated with ^{22}Ne ions with an energy of 119 mev. This produced a maximum yield for the reaction ^{242}Pu (^{22}Ne, 5n) ^{259}Ku. Gaseous nitrogen was passed over the surface of the target then mixed with small amounts of $TiCl_2$ and $SOCl_2$. The slightly volatile tetrachlorides of the radioactive products formed were separated on a chromatograph. A Ge-Li α-radiation detector was used to analyze the gas at different points along the column. The isotopes ^{170}Hf, ^{171}Hf, ^{44m}Sc (the latter the product of ^{22}Ne reaction with the Al of the target base), ^{242}Cm and ^{246}Cf (the latter two being products of a transfer reaction). It was

1/2

USSR

ZBARA, I., et al., Radiokhimiya, Vol 14, Vyp 1, 1972, pp 119-122

found that Na, Cs, Ca, Sr, the lanthanides, Np, Pu, Ru, Rh, and Pd are adsorbed only at significantly higher temperatures than Uf (and also the ekahafnium Ku) whereas the chlorides of In, Sn, Nb, Mo, and Tc are adsorbed only at lower temperatures. Photographs of the expected area of Ku adsorption show tracks of fission products which must be those of the ^{259}Ku with a t-1/2 = 4.5 sec.

2/2

- 49 -

UDC 535.65

USSR

PANOVA, I. N., and YUSTOVA, Ye. N.

"Problem of the Effect of Errors in Reproducing Color Addition Functions on the Readings of Photoelectric Comparators"

Tr. metrol. in-tov SSSR (Works of the USSR Metrological Institutes), No 114 (174), 1970, pp 159-166 (from RZh-Metrologiya i Izmeritel'naya Tekhnika, No 2, Feb 71, Abstract No 2.32.1838)

Translation: The problem of tolerances on the spectral sensitivity curves of radiation receivers and the spectral curves of correcting light filters in objective color comparators is investigated. As a result of the experiment the following was discovered: for the scale range of the EKTs-1 and FKTs-Sh comparators the differences in the addition function systems of M. M. Gurevich and D. A. Shklover are not reflected in the measurement results. In the same way the measurement results from using the comparators do not depend on the choice of illumination source. The system of zonal light filters (red, green, blue) used for approximate estimation of the whiteness carry systematic errors exceeding the comparator measurement errors by an order. There are 3 illustrations, 4 tables and a 3-entry bibliography.

1/1

1/2   018   UNCLASSIFIED   PROCESSING DATE--16OCT70
TITLE--EFFECT OF LOW FREQUENCY MECHANICAL VIBRATIONS ON THE EXTRACTION OF
  VEGETABLE OILS -U-
AUTHOR-(04)-NIYAZOV, M.I., SALIMOV, Z., YUSUBOV, N., SHARIPOV, D.

COUNTRY OF INFO--USSR

SOURCE--UZB. KHIM. ZH. 1970, 14(1), 71-2

DATE PUBLISHED-------70

SUBJECT AREAS--BIOLOGICAL AND MEDICAL SCIENCES

TOPIC TAGS--VEGETABLE OIL, LOW FREQUENCY, VIBRATION, CHEMICAL SEPARATION

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAME--1999/0301   STEP NO--UR/0291/70/014/001/0071/0072

CIRC ACCESSION NO--AP0122503
                    UNCLASSIFIED

CIRC ACCESSION NO--AP0122503
ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE EFFECT OF LOW FREQUENCY MECH.
VIBRATION ON EXTN. OF COTTONSEED MEAL (8.76PERCENT OIL, 4.2PERCENT H
SUB2 O) WAS INVESTIGATED. THE EXTN. COLUMN HAD DIMENSIONS: LENGTH
(LAYER OF EXTRACTION MATERIAL) 340 MM; DIAM. 40 MM; VIBRATION AMPLITUDE
8 MM; FREQUENCY 3.5 HZ; AV. DIAM. OF EXTD. PARTICLES 4 MM; TEMP.
20DEGREES; FLOW RATE OF SOLVENT 0.35-2.0 CM-SEC. A CONSIDERABLE
INTENSIFICATION OF THE EXTN. PROCESS WAS ACHIEVED BY USE OF I IN
COMPARISON WITH COMMON EXTN. PROCESS WITHOUT I UNDER THE SAME
CONDITIONS. THE EFFECT OF I IS BASED MAINLY ON IMPROVEMENT OF EXTERNAL
DIFFUSION.   FACILITY: TASHKENT. POLITEKH. INST., TASHKENT, USSR.

UNCLASSIFIED

USSR

UDC 553.981/982(479.24)"313"

OVANESOV, G. P., DURMISH'YAN, A. G., and YUSUF-ZADE, Kh. B., Ministry of
Petroleum Industry, Caspian Sea Administration for Oil Exploration

"Prospects for Discovery of Oil and Gas Fields in the Baku Archipelago"

Moscow, Geologiya Nefti i Gaza, No 1, Jan 73, pp 1-5

Abstract: Exploratory structural and cartographic drilling, analysis of
volcanic activity and products of their eruptions are said to indicate the
probability of finding petroleum and gas deposits in the Baku Archipelago.
The findings to date in this area are briefly reviewed. In summarizing the
specific peculiarities of the anticlinal rise the large throw and the high
charging coefficient of the pits, secondary longitudinal disturbances in
tectonic structure, regional anomalous high stratal pressure, regularity of
development of hydrocarbons in folds, particularly in the gaseous phase,
and the high productivity of Pleocene rises are discussed and their further
utilization considered. These peculiarities are said to illuminate the
formation of petroleum and gas deposits and to indicate the necessary di-
rection for further investigations.

1/1

USSR

MAMEDOV, A. A., Doctor of Medical Sciences, YUSUFKHANOV, A. K., Junior Scientific Associate, MUSTAFAYEVA, T. I., Graduate Student, Laboratory of Biochemistry of Viruses, Azerbayduzhan Scientific Research Institute of Virology, Microbiology, and Hygiene imeni G. M. Musabekov

"Shift in the Free Amino Acid Content in the Blood Serum of White Mice During Experimental Influenza"

Abstract: The content of some 17 free amino acids in the blood sera of 100 healthy and infected white mice was determined by paper chromatography. The tests were repeated 3 to 6 times. Lysine, alanine, and valine were present in the greatest quantities (62.55, 58.3, and 44.3 mcg/ml, respectively). The content of arginine, serine, histidine, asparagine, proline, and methionine was lowest (9.98, 6.24, .6.65. 17.86, 19.9, and 16.63 mcg/ml, respectively). Content of the remaining eight amino acids was intermediate, ranging from 20.12 to 34.15 mcg/ml. In the infected mice, the content of individual amino acids was somewhat lower. In particular, there was a sharp drop in the content of essential amino acids. The quantitative change in free amino acid content contradict 1/2

- 42 -

USSR

MAMEDOV, A. A., et al, Azerbaydzhanskiy Meditsinskiy Zhurnal, No 1, Jan 71,
pp 61-64

assumptions that there is a lack of coordination in the exchange of amino acids
and the other components of nitrogen metabolism. The data provide improved in-
sight into the mechanism of protein metabolism during infectious processes and
indicate potential directions for research on methods which will make it possible
to normalize and stabilize this breakdown.

2/2

TITLE--CONDENSATION OF GASOLINE VAPOR IN THE PRESENCE OF WATER VAPOR -U-

AUTHOR--YUSUFOVA, V.D., NEYKDUKHT, N.N.

COUNTRY OF INFO--USSR

SOURCE--KHIM. NEFT. MASHINOSTR. 1970, (2), 18-20

DATE PUBLISHED-------70

SUBJECT AREAS--PROPULSION AND FUELS

TOPIC TAGS--CHEMICAL SEPERATION, GASOLINE, WATER, VAPOR CONDENSATION

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAME--1990/2060   STEP NO--UR/0314/70/000/002/0018/0020

CIRC ACCESSION NO--AP0109992
ZZZZZZZZZZZZ   -----------UNCLASSIFIED-------------

UNCLASSIFIED   PROCESSING DATE--11SEP70
CIRC ACCESSION NO--AP0109992
ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE TITLE STUDY WAS CONDUCTED IN A
  HORIZONTAL FLOW CONDENSER AT VAPOR PRESSURES OF 1.2-1.5 ATM. TEMPS.
  90-110DEGREES, AND FLOWS LESS THAN OR EQUAL TO 15 M-SEC.   CONDENSING
  HEAT TRANSFER COEFFS. (ALPHA) WERE DETD. AS FUNCTIONS OF A HEAT FLOW
  (Q), TEMP. DIFFERENCE (DELTAT) BETWEEN STEAM AND WALL, PERCENT WATER
  VAPOR IN THE STEAM, AND CONDENSER LENGTH. VARIATIONS IN ALPHA DUE TO
  TUBE MATERIAL, TUBE FOULING, SUPERCOOLING, HYDROCARBON COMPN. AND D.,
  AND INTERMEDIATE REMOVAL OF CONDENSED PRODUCTS WERE EXAMD. IN 20-25
  TIMES 2000-6000 MM TUBES AT Q EQUALS (0.5-3.0) TIMES 10 PRIME4 KCAL-M
  PRIME2 HR. AN OVERALL EQUATION WAS DEVELOPED WHICH YIELDS ALPHA WITHIN
  PLUS OR MINUS 20PERCENT OF EXPTL. FOR GASOLINE VAPORS CONTG. LESS THAN
  OR EQUAL TO 10PERCENT H SUB2 O, DELTAT EQUALS 10-50DEGREES, TUBE LENGTH
  TO DIAM. RATIOS EQUALS 100-300, AND Q EQUALS 5000-30,000 KCAL-M PRIME2
  HR.

ZZZZZZZZZZZZZ   UNCLASSIFIED

USSR

UDC 621.791.754:669.71:669.691.004.62

YUSUFOVA, Z. A., Engineer and LESKOV, G. I., Doctor of Technical Sciences

"On the Mechanism of Oxide Film Destruction in Welding Aluminum Alloys in a Medium of Inert Gases"

Moscow, a Medium of Svarochnoye Proizvodstvo, No 7, Jul 70, pp 57-58

Abstract: Studies were made of the mechanism of oxide film destruction in direct current of different polarity arcs and in arc alternating current in argon and helium. It was previously established that cathode sputtering does not eliminate more than 2.6% of the film and does not play a significant role in the mechanism of its destruction by the welding arc. Test procedures are briefly described. It was observed that a d-c arc of normal polarity in Ar causes a growth in oxide film thickness, while in welding in helium, with a d-c arc of normal polarity (anode spot), a band is formed which is clear of oxide film. Thus, for the destruction of Al_2O_3 film the existence of a cathode spot on its surface and the effect of cathode sputtering are not necessary. It was also observed that the arc in He causing the sputtering of Al_2O_3 film in the zone of the anode spot is characterized by a higher voltage between electrodes (16 v at normal polarity, 23 v at negative polarity) than the arc in Ar (11 v at normal polarity, 18 v at negative polarity).
1/2

USSR

YUSUFOVA, Z. A., et al, a Medium of Svarochnoye Proizvodstvo, No 7, Jul 70, pp 57-58

This points to the possibility of film destruction by an energy flow of sufficient density. It is concluded that a thermal effect is the most probable mechanism of oxide film destruction. A specific power of $11 \times 10^3 < p < 15 \times 10^3 w/cm^2$ is necessary to accomplish it. This power is transmitted to the arc anode spots in He and to the arc cathode spots in other gases and also to the ac arc active spots. 1 figure, 4 references.

2/2

USSR

UDC 547.944.6

TURDIKULOV, KH., YUSUNOV, M. K., SADYKOV, A. S., Tashkent Order of the Red
Banner of Labor State University imeni V. I. Lenin

"Structure of the K-13 Alkaloid from Colchicum Kesselringii"

Tashkent, Khimiya Prirodnykh Soyedineniy, No 4, 1972, pp 502-505

Abstract: A previous report was published on the separation of alkaloids
from the bulbo-tubers Colchicum kesselringii Rgl. (Kh. Turdikulov, et al.,
KhPS, 541, 1971). A study has been made of the unknown phenol substance
with R_f 0.31 called K-13 alkaloid. It belongs to the series of photochemical
isomers of tropolonic alkaloids. The K-13 composition is $C_{21}H_{23}O_6N$. It has
a melting point of 287-288°, $[\alpha]D$-420°. The ultraviolet, infrared,
nuclear magnetic resonance and mass spectral data indicate the presence and
the location of the corresponding functional groups. Beginning with the
negative specific rotation, it is concluded that the K-13 alkaloid belongs
to sis-trans - isomers which is confirmed by methylation in γ-lumicolchicine.
The position of the hydroxyl group on the C_2 of the K-13 alkalod was deter-
mined on the basis of the nuclear magnetic resonance spectrum and by com-
parison with known compounds of similar structure.
1/1

1/2   028
UNCLASSIFIED
TITLE--STARTING TEMPERATURE OF A REACTION BETWEEN OXIDES IN THE SOLID
    PHASE -U-   PROCESSING DATE--04DEC70

AUTHOR-(04)-YUSFIN, YU.S., KARABASOV, YU.S., YUSUPKHODZHAYEV, A.A.,
    SUKHININA, V.M.

COUNTRY OF INFO--USSR

SOURCE--IZV. AKAD. NAUK SSSR, METAL. 1970, (3), 53-5

DATE PUBLISHED--------70

SUBJECT AREAS--PHYSICS, CHEMISTRY

TOPIC TAGS--SEMICONDUCTOR MATERIAL, CALCIUM OXIDE, TEMPERATURE EFFECT,
    CHEMICAL REACTION, ELECTRON DENSITY, STRUCTURAL ANALYSIS

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAME--3007/1872
                                STEP NO--UR/0370/70/000/003/0053/0055
CIRC ACCESSION NO--AP0137069
                    UNCLASSIFIED

2/2   028

CIRC ACCESSION NO--AP0137069

PROCESSING DATE--04DEC70

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE FOLLOWING SEQUENCE OF REACTIONS IS PROPOSED ON THE BASIS OF DTA, PETROGRAPHIC ANAL., X RAY STRUCTURAL ANAL., AND CONDUCTOMETRIC ANAL.: AT 515-20DEGREES CA(OH) SUB2 EQUALS CAO PLUS H SUB2 O, AT 670-15DEGREES CAO PLUS FE SUB2 O SUB3 EQUALS CAO.FE SUB2 O SUB3, AND AT 750-80DEGREES CAO.FE SUB2 O SUB3 PLUS CAO EQUALS 2CAO.FE SUB2 O SUB3. THE PRIMARY REACTION PRODUCT HAS ALWAYS CAO.FE SUB2 O SUB3 INDEPENDENT OF THE WT. RATIO OF REACTING SUBSTANCES. OXIDE SEMICONDUCTORS BECOME REACTIVE WHEN THE CONCN. OF ELECTRONS IN THE FREE ZONE OF THE SEMICONDUCTOR SHARPLY INCREASES; THIS CORRESPONDS TO THE CHANGE FROM IMPURITY TO INTRINSIC COND. IN THE SEMICONDUCTOR OXIDE.

USSR

<u>YUSUPOV, A</u>.

"The State of Hemocoagulation During Chronic Intoxication With Hexachlorane in an Experimental Setup"

Tr. Uzb. NII San. Gigiyeny i Profzabolevaniy (Proceedings of the Uzbek Scientific Research Institute of Sanitation, Hygiene and Professional Diseases), 1973, Vol 5, pp 135-137 (from RZh-Biologicheskaya Khimiya, No 24, Dec 73, Abstract No 24F 2170)

Translation: Hexachloran (<u>I</u>, oil emulsion) was administered p.o. to rabbits daily for 4 months at a dose of 6.5 mg/kg, determining the activity of the coagulating (SVS) and anticoagulating systems (PSVS) in blood. During the experiment and especially towards the end of the intoxication period a drop in the activity of SVS in blood was noted (longer period of the coagulation, recalcification, lowered tolerance of plasma toward heparine, trombopletic activity of blood, and the activity of prothrombic complex); a considerable increase in the concentration of fibrinogen has been noticed. Administration of <u>I</u> led to an increased activity of blood PSVS; 4 months after priming,

1/2

USSR

YUSUPOV, A., Tr. Uzb. NII San. Gigiyeny i Profzabolevaniy, 1973, Vol 5, pp 135-137

the fibrinolytic activity of blood increased from 8.1 to 19.2% and the content of free heparine from 3.7 to 7.8 units/ml. Twenty days after stopping I, the activity of proaccelerine became normal, the concentration if fibrinogen remaining elevated; the other SVS indexes remained depressed, and those of PSVS -- elevated. A stress is made of the importance of studying the SVS and PSVS of the blood in evaluating the action of chloroorganic pesticides and for diagnostic aspects of their toxic effects on warm blooded animals.

2/2

USSR

UDC 632.95

ABDURASULEVA, A. R., AKHMEDOV, K. N., YUSUPOV, A., and TADZHIMUKHAMEDOV,
Kh. S., Tashkent University

"Synthesis of Benzylphenols or Benzylresorcinols and Their Methyl Ethers"

Translation: Benzylphenols, benzylresorcinols and their methyl ethers which
can be used as bactericides, fungicides, or antihelminths, are synthesized
from phenols and resorcinols in the reaction with $PhCH_2Cl$ during heating in
the presence of $FeCl_3 \cdot 12H_2O$. Example: A mixture consisting of 23 g PhOH,
6.33 g $PhCh_2Cl$ and 0.0076 g $FeCl_3 \cdot 12H_2O$ is heated at 100-110°C for 20 min.,
excess of PhOH is removed by distillation at 10-15 mm pressure, the residue
is redistilled, and fractions are collected at 135-142°C/2. The resulting
8 g mixture contains 58% o-$PhCH_2C_6H_4OH$, b.p. 130-131°C/1, and 42%
p-$PhCH_2C_6H_4OH$, m.p. 83-84°C (CCl_4). In a similar way another mixture is
prepared, b.p. 140-145°C/2, consisting of 44.6% o-$PhCH_2C_6H_4OMe$, m.p.
30-31°C (diluted alcohol) and 55.4% p-$PhCH_2C_6H_4OM_e$, b.p. 154-155°C/4.
Chromatographic analysis (Al_2O_3) showed the presence of: 2-benzylresorcinol,
1/2

USSR

ABDURASULEVA, A. R., et al., USSR Author's Certificate No 327150, filed
28 May 70, published 16 Mar 72

m.p. 59°C (benzene), 4-benzylresorcinol, m.p. 78°C (benzene). From 15.5 g
resorcinol methyl ether, 3.16 g $PhCH_2Cl$ and 0.0054 g $FeCl_3 \cdot 12H_2O$ 4.9 g of
mixture is obtained, b.p. 157-160°C/2, $n^{20}D$ 1,5923, containing 21%
$2\text{-PhCH}_2\text{-3-MeOC}_6H_3OH$, m.p. 77°C (hexane), 36% $4\text{-PhCH}_2\text{-3-MeOC}_6H_3OH$, m.p.
51°C (hexane), 43% $6\text{-PhCH}_2\text{-3MeOC}_6H_3OH$, m.p. 43°C. A heating of a mixture
consisting of 27.6 g dimethyl ether of resorcin, 2.53 g $PhCH_2Cl$ and 0.052
g $FeCl_3 \cdot 12H_2O$ at 110-130°C for 30 min. yields 4.2 of substance, b.p.
146-147°C/2, $n^{20}D$ 1,5763, which contains according to gas-liquid chroma-
tography 27% $2\text{-PhCH}_2\text{-1,3-(MeO)}_2C_6H_3$ and 73% $4\text{-PhCH}_2\text{-1,3-(MeO)}_2C_6H_3$.

2/2

- 34 -

USSR

UDC 524.04:681.14

YUSUPOV, AL. K. (Makhachkala)

"Distribution of Stresses in an Elastic Semiplane With a Modulus of Elasticity that is Quasi-Steady With Respect to Depth"

Moscow, Stroitel'naya Mekhanika i Raschet Sorruzheniy, No 1, 1971, pp 26-31

Abstract: The stresses originating in an inhomogeneous base under the action of a distributive load and a concentrated load are determined. The modulus of elasticity is represented in the form of a sum of mathematical expectation which is approximated by an exponential function of depth, and in the form of a steady-state random function. The random function is represented by a spectral expansion. The stressed state of the semiplane and the kernel of a statistically inhomogeneous base are determined. An example of calculation of the stresses is presented. 4 figures, 5 bibliographic entries.

1/1

USSR

UDC 621.438

KURZON, A. G., MITYUSHKIN, Yu. I., YUSUPOV, E. I., and SOKOLOV, B. G.

"Investigation of Conventional Single-Row, Single-Row With Repeated Admission and Double-Row Supersonic Turbine Stages With Low-Rate Injection"

Abstract: The results are presented of a detailed experimental investigation of the efficiency of single-row supersonic stage with repeated admission and of its comparison with a double-row and single-row supersonic stages with low rate injection, at various operating conditions, characterized by values of injection rates ζ , degree of expansion $\pi_r = p_0^*/p_2$ and velocity characteristic u/c_{ad}. The basic data on all stages investigated are presented in a table. The comparison of experimental data obtained at $\zeta \leq 0.11$ rate of injection shows that: 1) a repeated admission substantially increases the efficiency of a single-row supersonic stage with low rate of injection at $u/c_{ad} \angle 0.26$, and can be approached up to efficiency of double-row supersonic stage at other similar conditions; 2) a single-row stage with repeated admission at $u/c_{ad} > 0.16$ and $\pi_r > 14$ is more efficient than the double-row stage

1/2

USSR

KURZON, A. G., et al, Izvestiya Vysshikh Uchebnykh Zavedeniy, Aviatsionnaya Tekhnika, No 3, 1971, pp 69-74

with the same rate of injection. This means that in cases when the simplicity of low power turbine construction, reduction in weight and production cost, and high reliability of turbine engine play a decisive role, the single-row with repeated admission can be considered a basic type of turbine stage for driving auxiliary mechanisms and compressors.

2/2

- 120 -

USSR

CHICHENIN, P. I., ADILOV, D. A., YUSUPOV, K. Yu., SHARIPOV, M. K., PULATOV, Ya. G., LI GVAN KHVA, V. T., AGZHANOV, N. A., and DZHURAYEV, Kh. D., Uzbek Scientific Research Institute of Epidemiology, Microbiology, and Infectious Diseases

"Epidemiological Characteristics of Anthrax in Uzbekistan During Recent Years"

Abstract: In 1949-60 the incidence of anthrax affecting human beings decreased by a factor of three in the Uzbek SSR from that in 1925-48, mainly as a result of immunization of occupationally exposed persons. In recent years the over-all incidence of anthrax among both humans and animals in the Uzbek SSR was reduced by effective prophylactic measures. However, there is no room for complacency, in view of the fact that there was in 1949-60 and especially in 1961-70 an increase in the relative weight of group infections connected with the uncontrolled utilization of meat and of other animal products after obligatory slaughter of diseased farm animals, particularly in the private sector. During the period under consideration, the frequency of anthrax in the Uzbek SSR exceeded that in the USSR by a factor of 3-4, with the number of cases in the Uzbek SSR comprising 10-16% of that in the entire USSR. On the basis of data covering the
1/2

- 9 -

USSR

CHICHENIN, P. I., Meditsinskiy Zhurnal Uzbekistana, No 1, Jan 73, pp 15-19

incidence of anthrax in the past 20 yrs, one can differentiate between three
zones in the Uzbek SSR: I) A zone of stable incidence among humans and animals
(Tashkentskaya, Surkhandar'inskaya, and Samarkandskaya Oblasts); II) A zone
with periodic outbreaks (Andizhanskaya, Khorzemskaya, and Kashkadar'inskaya
Oblasts and the KKASSR); III) The zone with the most satisfactory conditions
(Bukharskaya, Syrdar'inskaya, Namanganskaya, and Ferganskaya Oblasts). The
ratio of cases of human anthrax to those in the entire Uzbek SSR was 62.33,
35.25, and 2.42% in zone I, II, and III, respectively, and that of anthrax of
animals 67.13, 32.02, and 0.85% in zone I, II, and III, respectively. In view
of the fact that the infection remains in the soil, prophylactic measures in
locations at which anthrax has occured must be carried out constantly regard-
less of the time that has elapsed since the last outbreak and these measures
reinforced at times at which digging into the ground takes place, e.g., in
connection with agricultural irrigation.

2/2

USSR   UDC 911.3:616.927(575.1)

NEVSKIY, M. V., YUSUPOV, K. Yu., AMINADZE, Z. M., KAPLUNOVA, M. S., and PULATOV, Ya. G.

"Morbidity Dynamics of Typhoid and Paratyphoid Fever in the Uzbek SSR"

Nauchn. tr. uchenykh i prakt. vrachey Uzbekistana (Scientific Works of Research and Practicing Physicians in Uzbekistan) 1970, sb. 6, pp 16-20 (from RZh-Meditsinskaya Geografiya, No 4, Abstract No 4.36.203)

Translation: During the years 1958-1965, the Uzbek SSR registered a decrease in the number of cases of all typhoid and paratyphoid by a factor of 2.4; typhoid by a factor of three, while the number of paratyphoid fever cases remained unchanged. In cities the number of typhoid-paratyphoid cases decreased three-fold; in rural areas -- two-fold. In 1958 45.7% of the patients in rural areas had typhoid-paratyphoid and in 1965 -- 54.6%. In the total paratyphoid picture for the past three years, the prevailing form was paratyphoid B, responsible for a 79% morbidity.

1/1

USSR   UDC: 911.3.616.927(575.1)

CHICHENIN, P. I., PULATOV, Ya. G., YUSUPOV, K. Yu., LI GVANKHVA, V. T., BADANOVA,
L. A., KOVALEVA, F. S.

"The Prevalence of Typhoid-Paratyphoid Infections and the Means for Eradicating
them in the Uzbek SSR"

V sb. Materialy XV Vses. s'ezda epidemiologov. mikrobiologov i infektsionistov,
Tezisy dokl. Ch. I (Proceedings of the 15th All Union Conference of Epidemiolo-
gists, Microbiologists and Specialists in Infectious Diseases, Reports of Theses,
Part I--collection of works) Moscow, 1970, pp 279 (from RZh-36. Meditsinskaya
geografiya, No 1, Jan 71, Abstract No 1.36.250)

/No Abstract/

1/1

USSR

YUSUPOV, K. Yu., Senior Scientific Associate and AMINZADE, Z. M., Uzbek Scien-
tific Research Institute of Epidemiology, Microbiology and Infectious Diseases

"Epidemiological Characteristics of Typhoid-Paratyphoid in Uzbekistan"

Abstract: Although the incidence of typhoid fever and paratyphoid, among other
infectious diseases, has fallen sharply because of improved living conditions in
the USSR after World War II, it is still high in the republics of Central Asia.
A characteristic of typhoid-paratyphoid is its uneven territorial distribution:
up to 45% of all cases for the USSR occur in Central Asia and Armenia, which have
only 14% of the entire population of the country. Studies show that typhoid and
paratyphoid are transmitted mainly through polluted water in open reservoirs used
for household purposes. In recent years the incidence of these diseases has
been increasing in rural localities as compared to urban centers, which may be
attributed partially to better health education, sanitation, and medical service
in urban areas. The seasonal increase in typhoid paratyphoid, due perhaps to more
active spread of the infection during the summer and fall months, is very pro-
nounced in Uzbekistan, where it has not yet been successfully controlled. Whereas
in the past typhoid paratyphoid affected mainly people in their prime, because of
1/2

USSR

YUSUPOV, K. Yu., Meditsinskiy Zhurnal Uzbekistana, No 9, Sep 70, pp 50-54

their wider scope of activity and contacts, in recent years it has affected mostly
children up to 14 years of age. Prophylactic inoculation is less extensive in
this age group, and personal hygiene is poorer, there is greater contact with
polluted water, and natural and artificial immunity levels are lower. Carriers
are now believed to be primary sources of infection, and because they are diffi-
cult to detect in the mildest of cases, timely diagnosis with early laboratory
tests, isolation and decontamination are of utmost importance. Extensive appli-
cation of bacteriophage therapy, as well as inoculations with V-antigen are recom-
mended for children under two years of age.

2/2

USSR   UDC: 616.981.42-036.22(575

DZHALILOV, K.D., DZHURAYEV, N.D., MUSABAYEV, I.K., YUSUPOV, K.YU., and PULATOV, YA.G., Uzbek Institute of Epidemiology, Microbiology, and Infectious Diseases, and Uzbek Republic Sanitary Epidemiological Station and Infectious Diseases,

"Aspects of the Epidemiology of Brucellosis in Uzbekistan"

Abstract: Although the incidence of brucellosis has declined sharply in recent years in the Soviet Union as a whole, it remains high in the Central Asian republics, particularly Uzbekistan, mainly because cattle and sheep raising is widespread in both the public and private sectors. From 1962-1966 cattle were the source of the disease in man in 60.6% of the cases, sheep and goats in 32.5%, and other animals in 6.9%. The main routes of infection were alimentary (30.9%), contact (16.2%), and combined alimentary-contact (9.9%). The peak of the disease occurred during the spring and summer, when contacts of people with animals (lambing, shearing of wool) were most frequent, and consumption of dairy and milk products highest. Farms affected with the disease in 1966 were in Kashkadar'ya oblast (15.8%), Samarkand (14.2%), Tashkent oblast (12.3%), Karakalpak ASSR (12%), Surkhandar'ya (11.4%), Andizhan (10.7%) and Fergen (8.7%) oblasts. Among humans, more cases of chronic brucellosis than acute forms of the disease are reported every year.

1/1

Acc. Nr: AP0043938   YUSUPOV K. Yu
Ref. Code: UR 0016

PRIMARY SOURCE: Zhurnal Mikrobiologii, Epidemiologii, i
Immunobiologii, 1970, Nr 2, pp 116-126

SOME PROBLEMS OF EPIDEMIOLOGY OF BRUCELLOSIS IN UZBEKISTAN

Dzhalilov, K. D.; Dzhuravev, N. D.; Musabayev, I. K.;
Yusupov, K. Yu.; Pulatov, Ya. G.

As a result of analysis of the incidence of brucellosis and of individual problems of epidemiology and epizootology concerning brucellosis in Uzbekistan in 1956—1966, it was established that the index of brucellosis affection of farm animals was unequally distributed in the republic: in 1962—1966 83.7% of the affected animals were found in Samarkand, Bukhara, Kashkadarya, and Tashkent regions, and also Karakalpak ASSR and Tashkent city, only 11.3% being revealed in Surkhandarya, Khoresm, Fergana and Syrdarya regions. A spring-summer seasonal prevalence was noted (80%). It was shown that brucellosis infection of human beings occurs mainly by alimentary route, cattle serving as the source of infection.

//

REEL/FRAME
19770364

6 DI

Alkaloids

USSR

UDC 547.944.6

TURDIKULOV, Kh., YUSUPOV, M. K., and SADYKOV, A. S., Order of the Red Banner of Labor Tashkent State University im. V. I. Lenin

"Desacetylcolchincin and Desacetylcolchicein -- the New Alkaloids Isolated from Merendera Robusta"

Tashkent, Khimiya Prirodnykh Soyedineniy, No. 2, 1972, pp 247-248

Abstract: Three new alkaloids were discovered in Merendera robusta B & e., collected in 1958. On the basis of UV and NMR spectroscopy the compounds were identified as desacetyl-colchicin, desacetylcolchicein and N-methylcolchamine. The structures were verified by preparation of N-methyl and N-acetyl derivatives.

1/1

USSR

UDC 547.944.6

TURDIKULOV, KH., YUSUPOV, M. K., and SADYKOV, A. S., Order of Red Banner of Labor Tashkent State University imeni V. I. Lenin

"Alkaloids of the Bulbs of Colchicum Kesselringii"

Tashkent, Khimiya Prirodnykh Soyedineniy, No 4, 1971, p 541

Abstract: This study is a continuation of earlier research conducted by the authors on the alkaloid content of Colchicum Kesselringii (Kesselring's meadow saffron).

The phenol portion of the fraction of alkaloids of neutral-phenol character was studied with use of thin-layer chromatography (aluminum oxide). The presence of four substances was established: 3-demethyl-β-lumicolchicine, 2-demethylcolchicine, and two other alkaloids, one with the composition $C_{21}H_{23}O_{6}N$, which appears to belong to the β-lumiderivative tropolon series. This particular alkaloid, on the basis of the physico-chemical data obtained, may be the same as the alkaloid S_2, separated by Canonica et al. from Gloriosa superba L. The authors' study represents the first attempt of any sort to separate alkaloids from Colchicum Kesselringii.

1/1

- 17 -

1/2   009   UNCLASSIFIED   PROCESSING DATE--27NOV70
TITLE--ALKALOIDS OF COLCHICUM KESSELRINGII CORMS -U-

AUTHOR-(02)-YUSUPOV, M.K., SADYKOV, A.S.

COUNTRY OF INFO--USSR

SOURCE--RAST. RESUR. 1970, 6(1), 104-7

DATE PUBLISHED-------70

SUBJECT AREAS--BIOLOGICAL AND MEDICAL SCIENCES

TOPIC TAGS--PROCESSED PLANT PRODUCT, ALKALOID, CHEMICAL IDENTIFICATION,
   SUCROSE

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAME--3006/0459   STEP NO--UR/0503/70/006/001/0104/0107

CIRC ACCESSION NO--AP0134227
                                  UNCLASSIFIED

CIRC ACCESSION NO--AP0134227
ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE CORMS CONTAINED
0.13-0.18PERCENT TOTAL ALKALOIDS, DEPENDING ON THE GROWTH PERIOD.
COLCHICINE, 2,DEMETHYLCOLCHICINE, KESSELRINGINE, AND 7 OTHER ALKALOIDS
WERE IDENTIFIED. THE MAX. CONTENT OF MONO AND DISACCHARIDES WAS FOUND
IN FLOWERS, THAT OF STARCH IN THE FRUIT. SUCROSE WAS THE MAIN
DISACCHARIDE.   FACILITY: TASHKENT. GOS. UNIV., TASHKENT, USSR.

UNCLASSIFIED

UNCLASSIFIED   PROCESSING DATE--04DEC70
TITLE--THE ALKALOID L-6, C SUB3 HYDROXYLATED DERIVATIVE OF
  GAMMA,LUMICOLCHICINE -U-
AUTHOR-(03)-CHOMMADOV, B., YUSUPOV, M.K., SADYKOV, A.S.

COUNTRY OF INFO--USSR

SOURCE--KHIM. PRIR. SOEDIN. 1970, 6(2), 275

DATE PUBLISHED-------70

SUBJECT AREAS--BIOLOGICAL AND MEDICAL SCIENCES

TOPIC TAGS--PROCESSED PLANT PRODUCT, ALKALOID, MOLECULAR STRUCTURE, MASS
  SPECTRUM, NMR

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAME--3005/0467   STEP NO--UR/0393/70/006/002/0275/0275

CIRC ACCESSION NO--AP0132682
                         UNCLASSIFIED

CIRC ACCESSION NO--AP0132682
ABSTRACT/EXTRACT--(U) GP-O- ABSTRACT. THE ALKALOID L-6 (M. 291-3DEGREES,
(ALPHA) PRIME20 SUBO MINUS 41ODEGREES) FROM COLCHICUM LUTEUM IS,
ACCORDING TO NMR AND MASS SPECTRA; THE AS YET UNKNOWN
3,DEMETHYL,GAMMA,LUMICOLCHICINE (I) THE CORRESPONDING ME ETHER, M.
275-6DEGREES, IS IDENTICAL WITH GAMMA,LUMICOLCHICINE.   FACILITY:
TASHKENT. GOSUNIV. IM. LENINA, TASHKENT, USSR.

UNCLASSIFIED

1/2   021   UNCLASSIFIED   PROCESSING DATE--04DEC70
TITLE--STRUCTURE OF THE ALKALOID L 5 FROM COLCHICUM LUTEUM -U-

AUTHOR-(03)-CHOMMADOV, B., YUSUPOV, M.K., SADYKOV, A.S.

COUNTRY OF INFO--USSR

SOURCE--KHIM. PRIR. SOEDIN. 1970, 6(1), 82-8

DATE PUBLISHED-------70

SUBJECT AREAS--BIOLOGICAL AND MEDICAL SCIENCES

TOPIC TAGS--PROCESSED PLANT PRODUCT, ALKALOID, MOLECULAR STRUCTURE, UV
   SPECTRUM, IR SPECTRUM, NUCLEAR MAGNETIC RESONANCE

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAME--3005/0463   STEP NO--UR/0393/70/006/001/0082/0088

CIRC ACCESSION NO--AP0132678
                           UNCLASSIFIED

2/2   021
CIRC ACCESSION NO--AP0132678   UNCLASSIFIED   PROCESSING DATE--04DEC70

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. TWO NEW ALKALOIDS L-5 (I) AND L-6
(II) WERE ISOLATED FROM C. LUTEUM TOGETHER WITH COLCHAMINE,
3,DEMETHYLCOLCHAMINE, 3,DEMETHYL,BETA,LUMICOLCHICINE, COLCHICINE,
DEMETHYLCOLCHICINE, BETA,LUMICOLCHININE, N,DEACETYL,N,FORMYLCOLCHICINE,
AND LUTEIDINE. II, C SUB21 H SUB23 O SUB6 N, M. 291-3DEGREES (ME SUB2
CO) (ALPHA) SUBD MINUS 41DEGREES (C0.88, MEOH), WAS ISOLATED FROM A
PHENOLIC FRACTION AND ITS STRUCTURE HAS NOT DETD.; I, M. 179-83DEGREES,
WAS PROVED TO BE 2,DEMETHYLCOLCHICINE.   UV, IR, AND NMR DATA OF I ARE
GIVEN AND TRANSFORMATIONS OF I INTO COLCHICINE, ISOCOLCHICINE,
2,DEMETHYLCOLCHICINE, AND 2,DEMETHYLISOCOLCHICINE ARE DESCRIBED.
FACILITY: TASHKENT. GOSUNIV. IM. LENINA, TASHKENT, USSR.

UNCLASSIFIED

USSR

UDC: 547.944.6

CHOMMADOV, B., YUSUPOV, M.K., SADYKOV, A.S., Tashkent State University imeni V.I. Lenin, Tashkent, Ministry of Higher and Secondary Specialized Education Uzbek SSR

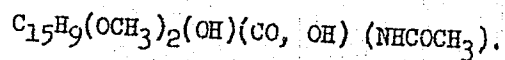"The Structure of Alkaloid L-5 from Colchium Luteum"

Abstract: Alkaloids were extracted from the plant body of the Colchium luteum Baker (meadow saffron) which grows in the Sazan-Ata Canyon of the Chimkentskaya Oblast. The alkaloids extracted in the flowering stage amounted to 1.58%, and in the fruiting stage -- to 0.29%. Absorption chromatography on aluminum oxide revealed that the alkaloid mixture from the flowering stage is composed of colchamine, 3-demethylcochamine, colchicine, 2-demethylcolchicine and 3-demethyl-β-lumicolchicine. The first two bases with the topolone ring and 3-demethyl-β-lumicolchicine. had never been extracted from saffron before. Analysis of the alkaloid mixture extracted from the fruting stage showed colchicine, β-lumicolchicine, N-desacetyl-N-formy-lcolchicine, 2-demethylcolchicine, 3-demethyl-β-lumicolchicine, luteidine (alkaloid L-2) and new compounds with R_f of 0.21 and 0.76 (system 1) named L-5 and L-6 respectively. Alkaloid L-5, with an empirical formula of $C_{20}H_{21}O_6N$ is a yellow amorphous substance which melts at 179-183°C. It makes up the principal part of the phenol-acid fraction of the alkaloids. Spectroscopic analysis shows that this compound contains the tropolone ring. Spectroscopic and functional

1/2

USSR

CHOMMADOV, B., et al, Tashkent, Khimiya Prirodnykh Soyedineniy, No 1, 1970, pp 82-88

data suggest the following formula:

$$C_{15}H_9(OCH_3)_2(OH)(CO, OH) (NHCOCH_3).$$

It was established that the structure corresponds to 2-demethylcolchicine, which is present in all colchicine-bearing plants of Central Asia, and may be an intermediate product in the biosynthesis of colchicine. Paper chromotography showed that the alkaloid mixture also contains three new alkaloids with R_f of 0.38, 0.40 and 0.86.

2/2

- 8 -

USSR

UDC 547.944.945

ZUPAROVA, K. M., CHOMMADOV, B., YUSUPOV, M. K., SADYKOV, A. S., Tashkent Order of the Red Banner of Labor State University imeni V. I. Lenin

"Alkaloids of Merendera Jolantae"

Tashkent, Khimiya Prirodnykh Soyedineniy, No 4, 1971, pp 487-493

Abstract: A study was made of the alkaloids of Merendera Jolantae in which it was discovered that along with tropolonic compounds it also contains bases with other hydrocarbon rings. By extraction of 48 kg of the above-ground parts of the nerendera, 0.39% of the total alkaloids were isolated, including 0.28% of the bases. The compounds β-lumicolchicine, colchicine, 2-dimethyl-colchiceine and the unknown lumi-derivative -- MJ-3 alkaloid (melting point 268-270°) and also colchiceine were obtained by chromatography on adsorbent fractions of neutral and phenol compounds. Colchamine, colchaneine and the new bases MJ-1, MJ-2 and MJ-4 isolated from the bases and phenon-basic frac-tions. The presence of 3-demethylcholchamine and four more unknown, non-tropolonic compounds with R_f 0.40, 0.49, 0.53 and 0.54 was determined by chromatographic methods. The formula $C_{16}H_{16}(OH)(OCH_3)(CO)(NCH_3)$ was proposed for Jolantamine (the base MJ-1) by spectral methods.
1/1

USSR

YUSUPOV, M. M., and ROZHKOVA, N. K., Order of the Labor Red Banner Institute of the Chemistry of Natural Products

UDC 547.26.118

"Synthesis of Some Dialkyl-N-(2-benzthiazolyl)-amidophosphates"

Abstract: To a solution of 1.5 g of aminobenzthiazole in 10 ml of dry acetone, 1.66 g of freshly distilled diisopropyl phosphite and 2 ml of CCl_4 were added. After addition of 1.5 ml of triethylamine and stirring for 2 hrs at room temperature followed by 1 hr at $50°$ and after an overnight storage, the precipitated acid chloride was removed, the solvent evaporated and the residual oil washed with HCl to yield the dialkyl-N-(2-benzthiazolyl)-amidophosphates. The agents did not exhibit adequate defoliative activity.

1/1

- 23 -

USSR

YUSUPOV, M. M., KOZAK, R. A., and ROZHKOVA, N. K.

UDC 632.95

"Synthesis of N-Ethyl-S-alkylthiobenzothiazolium Borofluorides"

Sintez Borftoridov N-Etil-S-alkiltiobenzotiazoliya [English Version Above], Tashkent, 1971, 4 pages, (Translated from Referativnyy Zhurnal, Khimiya, No 9, 1972, Abstract No 8 N574 Dep. by the Author's).

Translation: N-Ethyl-S-alkylthiobenzothiazolium borofluorides were manufactured by the interaction of the corresponding S-alkylthiobenzothiazoles with triethyloxonium borofluoride as part of the continuing search for new defoliants and studies of the dependence of defoliant activity on structure.

1/1

1/3   012
TITLE--SPECTROPHOTOMETRIC DETERMINATION OF COPPER WITH PICRAMINE M -U-
UNCLASSIFIED   PROCESSING DATE--30OCT70
AUTHOR-(03)-MINLEVA, V.A., PACHAUDZHANOV, D.N., YUSUPOV, M.YU.

COUNTRY OF INFO--USSR

SOURCE--DOKL. AKAD. NAUK TADZH. SSR 1970, 13(2), 37-9

DATE PUBLISHED------70

SUBJECT AREAS--CHEMISTRY

TOPIC TAGS--COPPER, METAL CHEMICAL ANALYSIS, SPECTROPHOTOMETRIC ANALYSIS

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAME--1999/0582
CIRC ACCESSION NO--AT0122769

STEP NO--UR/0425/70/013/002/0037/0039

UNCLASSIFIED

2/3   012
CIRC ACCESSION NO--AT0122769   UNCLASSIFIED   PROCESSING DATE--30OCT70
ABSTRACT/EXTRACT--(U) GP-0-   ABSTRACT.   PICRAMINE M (I) GIVES A BLUE 1:1
COMPLEX WITH CU PRIME2 POSITIVE AT PH 1.3-1.8; 6 ML 0.01PERCENT I SOLN.
IS NEEDED FOR A 50,ML SAMPLE CONTG. IS LESS THAN OR EQUAL TO MUG CU.
THE ABSORPTION MAX. OF I AND THE COMPLEX (MOLAR ABSORPTIVITY 3.1 TIMES
10 PRIME4) ARE AT 560 AND 640 NM, RESP. THE CALIBRATION CURVE IS LINEAR
AT 0.04-0.45 MUG CU-ML. ZN (1500), CD (1000), MG (1000), PB (2500), CO
(100), NI (50), BI (10), CA (20), AND AL (10) (VALUES OF PERMISSIBLE
EXCESSES GIVEN) DO NOT INTERFERE, WHILE FE PRIME3 POSITIVE, FE PRIME2
POSITIVE, TI PRIME4 POSITIVE, SN PRIME2 POSITIVE, AND TRILON B INTERFERE
CONSIDERABLY. A GEOL. SAMPLE (0.5-1G) IS TREATED WITH A MIXT. OF 10 ML
EACH HNO SUB3 AND HF IN A PT CRUCIBLE WITH HEATING H SUB2 O BATH, AND
EVAPD. TO DRYNESS. AFTER THIS PROCESS IS REPEATED, 4-5 ML H SUB2 SO
SUB4 IS ADDED AND THE MIXT. IS HEATED TO RELEASE DENSE WHITE VAPORS.
AFTER COOLING, 5 ML H SUB2 O IS ADDED, THE MIXT. IS EVAPD. AND FURTHER
HEATED TO WHITE VAPORS. THE RESIDUE IS HEATED WITH 20 ML 1:1 HCL IS
FILTERED. ACCORDING TO THE CU CONTENT, 1-10 ML OF FILTRATE IS EVAPD.,
THE RESIDUE IS DISSOLVED IN 10 ML 0.01N HCL, AND CU IS EXTD. TWICE FOR 3
MIN BY SHAKING WITH 10 ML 0.001PERCENT DITHIZONE SOLN. IN CCL SUB4. THE
EXT. IS EVAPD., 1 ML EACH H SUB2 SO SUB4 AND HCLP SUB4 ARE ADDED, THE
MIXT. IS HEATED TO DECOLORIZE THE SOLN., EVAPD., AND HEATED TO WHITE
VAPORS. THE RESIDUE IS DISSOLVED IN 5 ML H SUB2 O, 1.5 ML AQ.
0.04PERCENT I IS ADDED, THE MIXT. IS DILD. TO 50 ML WITH A PH 1.4 BUFFER
(HCL AND KCL), AND MEASURED AT 640 NM IN A 2-CM CELL.

UNCLASSIFIED

3/3   031   UNCLASSIFIED   PROCESSING DATE--30OCT70
CIRC ACCESSION NO--AT0122769

ABSTRACT/EXTRACT--TO PREP. A CALIBRATION CURVE, 1.5 ML 0.04% I IS ADDED TO
A STD. SOLN. CONTG. 2-40 MICROGRAMS CU AND DILD. TO 50 ML WITH THE BUFFER.
DOWN TO 10 TO THE MINUS 3 POWER % CU IN 0.5-1-G SAMPLE CAN BE DETD.
(INST. KHIM., DUSHANBE, USSR)

UNCLASSIFIED

1/2   024
TITLE--EVALUATION OF THE STRENGTH OF INDIVIDUAL CONTACTS BETWEEN SMALL
    CRYSTALS IN POROUS BODIES -U-

UNCLASSIFIED   PROCESSING DATE--20NOV70

AUTHOR-(04)-SHCHUKIN, YE.D., AMELINA, YE.A., YUSUPOV, R.K., REBINDER, P.A.

COUNTRY OF INFO--USSR

SOURCE--DOKL. AKAD. NAUK SSSR 1970, 191(5), 1037-40 (TECH PHYS) (RUSS)

DATE PUBLISHED--------70

SUBJECT AREAS--PHYSICS

TOPIC TAGS--COHESION STRENGTH, POROSITY, CRYSTAL SURFACE, NAPHTHALENE,
    AMMONIUM NITRATE, THERMAL PROCESS

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--3003/1496

STEP NO--UR/0020/70/191/005/1037/1040

CIRC ACCESSION NO--AT0130425

UNCLASSIFIED

CIRC ACCESSION NO--AT0130425

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. FINELY GROUND POWDERS OF NAPHTHALENE AND OF NH SUB4 NO SUB3 AS WELL AS SINGLE CRYSTALS OF THESE SUBSTANCES WERE COMPRESSED OR HEATED TO FUSION UNDER VERY CAREFULLY CONTROLLED CONDITIONS. THE POROUS PRODUCTS THUS OBTAINED WERE THEN SUBJECTED TO FORCES OF OPPOSITE SIGN. THE FORCE REQUIRED TO BREAK THE CONTACT ESTABLISHED BY EITHER COMPRESSION OR HEAT, DIVIDED BY THE AREA OF THE SPECIMEN GAVE THE STRENGTH OF THE INDIVIDUAL CONTACT. THIS METHOD ENABLED DIRECT MEASUREMENT OF THE COHESIVE FORCES OF INDIVIDUAL CONTACTS FROM THOUSANDTHS OF A DYNE TO SEVERAL HUNDRED DYNES. THE RESULTS ARE PLOTTED ON DISTRIBUTION CURVES.   FACILITY: MOSK. GOS. UNIV. IM. LOMONOSOVA, MOSCOW, USSR.

UNCLASSIFIED

USSR

SIDOROV, V. N., YUSUPOV, R. M.

"Some Problems of Increasing the Interference Resistance of ACS Algorithms"

Inform. metody v sistemakh upr. izmereniy i controlya. T. 1 [Information
Methods in Control, Measurement and Testing Systems. Volume 1 -- Collec-
tion of Works], Vladivostok, 1972, pp 378-390 (Translated from Referativnyy
Zhurnal - Kibernetika, No 8, 1973, Abstract No 8 V441 by V. Dyn'kin)

Translation: The struggle with distorted information caused by computer
errors involves the use of information, structural and algorithmic redun-
dancy. In this work, problems of the analysis of the interference stability
of algorithms described at the level of the basic mathematical relationships
and at the level of numerical methods, are solved. The formal apparatus
studied is the information graph plan (IGP). The sensitivity of the algorithm
to distortions of information caused by computer errors is taken as an evalu-
ation of the interference stability of an algorithm. The IGP is divided into
the control and computation of graphs. Analysis of the sensitivity of the
1/2

USSR

SIDOROV, V. N., YUSUPOV, R. M., Inform. metody v sistemakh upr. izmereniy
i controlya. T. 1., 1972, pp 378-390

algorithm is reduced to the analysis of the sensitivity of the subgraphs,
and the corresponding methods are presented. The requirements for accuracy
of testing of the parameters of the algorithm are indicated. The problem of
construction of algorithms having high natural interference stability is
stated. Examples are presented.

2/2

USSR

SIDOROV, V. N., YUSUPOV, R. M.   UDC: 51:621.391

"Some Problems of Increasing the Interference Immunity of Algorithms of Automated Control Systems"

Translation: Informational, structural, and algorithmic redundancy are used to control distortions of information due to malfunctions in digital computers. In this paper the authors solve problems of analyzing the interference immunity of algorithms described on the level of basic mathematical relations and on the level of numerical methods. The informational flowchart is considered as a formal vehicle. The sensitivity of the algorithm to distortions of information caused by digital computer malfunctions serves as an estimate of the interference immunity of the algorithm. The informational flowchart is broken down into subcharts of calculation and subcharts of control. Analysis of the sensitivity of the algorithm is reduced

1/2

USSR

SIDOROV, V. N., YUSUPOV, R. M., Inform. metody v sistemakh upr. izmereniy
i kontrolya, T. 1, 1972, pp 378-390

to analysis of the sensitivity of these subcharts, and the corresponding
procedures are presented. The requirements for accuracy in checking the
parameters of the algorithm are pointed out. The authors formulate the
problem of constructing algorithms having high inherent interference im-
munity.

2/2

- 47 -

USSR

KOZEYEV, V. A. and YUSUPOV, R. M.

"An Algorithm of the Gradient Method for Synthesizing Nonlinear Control Systems"

Abstract: To begin their search for an algorithm of the gradient method for designing nonlinear control systems, the authors write a system of nonlinear differential equations describing the perturbed motion of an automatic control system. Having developed an expression for the optimality criterion, they then use the gradient method for optimizing the parameters in the system of differential equations, first finding the criterion by the method of B. G. Dostupov and then finding its gradient. A formula for the time required by an electronic computer for synthesizing optimal nonlinear systems is obtained, and the authors show how that time can be reduced by the use of the gradient system for developing the partial linearization method in the algorithm for synthesizing nonlinear stochastic control systems. An example of the use of the algorithm is provided.

1/1

2

USSR

UDC 547.944/661.2

ASLANOV, KH. A., ISHBAYEV, A. I., INOYATOVA, K., YUSUPOV, SH., SADYKOV, A. S., and ZAKHAROV, V. P., Order of the Labor Red Banner Tashkent State University Imeni V. I. Lenin

"New Method for Isolation of the Anabasis Aphylla Alkaloids"

Abstract: A new method has been developed for isolation of individual Anabasis aphylla alkaloids from technical anabasin sulfate. Direct extraction of anabasine sulfate with chloroform yields aphylline, aphyllidine, and some anabasine. The major portion of anabasine and lupinine is obtained by converting them to nitroso derivatives followed by hydrolysis with 18% hydrochloric acid at 98-100°C. Also a modification was developed for production of the anabasine sulfate. The commonly used sulfation method required 40% H2SO4 at 70-80°C, leading to considerable hydrolysis of the alkaloids. This could be avoided preserving most of the alkaloids by the use of 40% H2SO4 at 50-60°C.

1/1

USSR

UDC 519.281

Nauka Press, 1970, pp 24-35.

It is demonstrated that under certain conditions, solution of the integral equation can be used to find the impulse transient functions of the system and

USSR

UDC 519.281

GEL'FANDBEYN, Ya. A., KOLOSOV, L. V., YUSUPOV, R. M.

"Estimate of Statistical Characteristics of External Perturbations and Internal Noise in Functioning Dynamic Systems"

Translation: A multivariate dynamic system with n inputs x_i, $i = 1, 2, \ldots, n$ and p outputs y_ν, $\nu = 1,2, \ldots, p$ it studied. The signals

$$\varphi_i = x_i(t) + \mu_i(t),$$
$$S_\nu = N_\nu(t) + y_\nu(t) + \psi_\nu(t),$$

are accessible to observation where μ_i and ψ_ν are measurement noises, not correlated with signals, and N_ν are perturbations. The results of observations (φ_i, S_ν) must be used to determine the perturbation N_ν.

1/2

1/2   009   UNCLASSIFIED   PROCESSING DATE--30OCT70
TITLE--SYNTHESIS OF THE 2,4,6,TRICHLOROPHENYL ESTER OF THE PENTAPEPTIDE
   GLY-ALA-GLY-GLU-GLY -U-
AUTHOR-(03)-ZEGELMAN, A.B., YUSUPOV, T.YU., POROSHIN, K.T.

COUNTRY OF INFO--USSR

SOURCE--DOKL. AKAD. NAUK TADZH. SSR 1970, 13(3), 22-3

DATE PUBLISHED-------70

SUBJECT AREAS--BIOLOGICAL AND MEDICAL SCIENCES

TOPIC TAGS--PEPTIDE, ESTER, CHLORINATED ORGANIC COMPOUND, BENZENE
   DERIVATIVE, CHEMICAL SYNTHESIS

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAME--1998/0728   STEP NO--UR/0425/70/013/003/0022/0023

CIRC ACCESSION NO--AT0121387
                        UNCLASSIFIED

CIRC ACCESSION NO--AT0121387
ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. (IN THIS ABSTR. Z EQUALS PHCH SUB2
    O SUB2 C AND 2,4,6, TRICHLOROPHENYL EQUALS C SUB6 H SUB2 CL SUB3.
    ALANINE AND GAMMA METHYLGLUTAMATE ARE IN THE L FORM). AS PART OF A
    STUDY OF THE STRUCTURE OF SILK FIBROIN THE PENTAPEPTIDE
    Z-GLY-ALA-GLY-GLU(OME)-GLY-OC SUB6 H SUB2 CL SUB3 (I) WAS PREPD. USING
    THE MIXED CARBOXYLIC CARBONIC ANHYDRIDE METHOD WAS PREPD. Z-ALA-GLY-OME,
    M. 96DEGREES. REMOVAL OF THE Z GROUP IN TURN YIELDED H-ALA-GLY-OME.HBR
    (II), M. 160DEGREES. Z-GLY-ALA-GLY-OME (III), M. 114-15DEGREES, WAS
    PREPD. BY THE ADDN. OF Z-GLY-OH TO II. III WAS CONVERTED INTO THE
    CORRESPONDING HYDRAZIDE (IV), M. 182DEGREES. THE Z GROUP WAS REMOVED
    FROM Z-GLY-OC SUB6 H SUB2 CL SUB3 (M. 213DEGREES) AND THE DEPROTECTED
    ESTER COMBINED WITH Z-GLU(OME)-OH TO YIELD THE FULLY PROTECTED DIPEPTIDE
    Z-GLU(OME)-GLY-OC SUB6 H SUB2 CL SUB3 (V), M. 118DEGREES. THE Z GROUP
    WAS REMOVED FROM V AND THE DIPEPTIDE ESTER ISOLATED AS THE HBR SALT (VI)
    IN THE FORM OF AN OIL. IV AND VI WERE COMBINED BY THE AZIDE METHOD TO
    YIELD I, (ALPHA) PRIME21 SUBD MINUS 17.6DEGREES (DMF).   FACILITY:
    TADZH. GOS. UNIV. IM. LENINA, DUSHANBE, USSR.

UNCLASSIFIED

1/2   019   UNCLASSIFIED   PROCESSING DATE--23OCT70
TITLE--REVERSIBLE PHOTOTRANSFORMATIONS OF CHLOROPHYLL IN A SYNTHETIC
    PIGMENT PROTEIN COMPLEX -U-
AUTHOR-(02)-GILLER, YU.YE., YUSUPOVA, G.A.

COUNTRY OF INFO--USSR

SOURCE--DOKL. AKAD. NAUK SSSR 1970, 190(6), 1470-3

DATE PUBLISHED-------70

SUBJECT AREAS--BIOLOGICAL AND MEDICAL SCIENCES

TOPIC TAGS--CHLOROPHYLL, AMINO ACID, COMPLEX COMPOUND, FLUORESCENCE,
    ABSORPTION SPECTRUM, BIOLOGIC PIGMENT

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAME--1998/1016

                            STEP NO--UR/0020/70/190/006/1470/1473

CIRC ACCESSION NO--AT0121612
                        UNCLASSIFIED

2/2   019
CIRC ACCESSION NO--AT0121612   UNCLASSIFIED   PROCESSING DATE--23OCT70
ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. ABSORPTION SPECTRA AND
FLUORESCENCE STUDIES ON A SYNTHETIC CHLOROPHYLLCASEINIC ACID H SUB2 0
SOL. COMPLEX IN THE PRESENCE OF LIGHT AND ELECTRON DONORS AND THE
ABSENCE OF O SHOWED REVERSIBLE PHOTOREDN. OF THE CHLOROPHYLL AND
ACCUMULATION OF A PRODUCT WITH AN ABSORPTION MAX. AT 530 M MU. THIS
PEAK WAS ABSENT IN THE DARK IN THE PRESENCE OF AIR. TREATMENT OF THE
SYNTHETIC PIGMENT PROTEIN COMPLEX WITH PETROLEUM ETHER INCREASED THE
PHOTOCHEM. ACTIVITY OF THE PIGMENT IN ALL CASES, ESP. IN COMPLEXES WITH
A HIGH (GREATER THAN 1PERCENT) CHLOROPHYLL CONTENT. WHEN THE COMPLEXES
WERE NOT TREATED WITH PETROLEUM ETHER, DURING ILLUMINATION FOR THE FIRST
FEW MIN (LARGER THAN OR EQUAL TO 20-25 MIN) THE RATE OF REACTION, TENDED
TO DECREASE. MAX. ACTIVITY OCCURRED IN THE STRONGLY BOUND PIGMENT
FRACTION (THE HIGHER THE CHLOROPHYLL CONCN. IN RELATION TO PROTEIN, THE
LOWER THE RELATIVE CONTENT OF THIS FRACTION).   FACILITY: INST.
FIZIOL. BIOFIZ. RAST. DUSHANBE, USSR.

UNCLASSIFIED

USSR

UDC 547.26'118+543.226

ROMANOV, G. V., YAGFAROV, M. Sh., KONOVALOV, A. I., PUDOVIK, A. N., KONOVALOVA, I. V., and YUSUPOVA, T. N., Institute of Organic and Physical Chemistry imeni A. Ye. Arbuzov, Academy of Sciences USSR, and Kazan' State University imeni V. I. Ul'yanov-Lenin, Kazan'

"The Thermodynamic and Kinetic Characteristics of the Phosphonate-Phosphate Rearrangement"

Abstract: The thermal effects in the rearrangement

$$(I) \quad \begin{array}{c} R \\ R' \end{array} \rangle P(=X)-O-CH \begin{array}{c} R'' \\ R''' \end{array} \rightarrow \begin{array}{c} R \\ R' \end{array} \rangle P(=X)-C(OH) \begin{array}{c} R'' \\ R''' \end{array} \quad (II)$$

were studied, where R=Alk, AlkO, Ph; R' = Alk, AlkO, Ph, OH; R'' = H, Me, Ph, COOAlk; R''' = COOAlk, COMe, $P(O)(OR)_2$, CN; X = O, S. The heat capacities at -50 - +120° and the changes in enthalpy during the rearrangement I → II at the temperature of the reaction were determined for a number of compounds I. It was shown that an approximately liner relation exists between the temperatures at which the reaction begins and the logarithms of the velocity constants of the isomerization of compounds I determined at a single temperature.

1/1

- 37 -

71108p   Effect of background cations on the rate of activation of iridium(III) hexachloride complexes. Kravtsov, V. I.; Tsventarnyi, E. G.; Tsayun, G. P.; Yusupova, V. A. (Leningrad. Gos. Univ., Leningrad, USSR). Zh. Neorg. Khim. 1970, 15(1), 51-3 (Russ). Rate const. (k) of $IrCl_6^{3-}$ aquation was detd. in 0.1, 1, and 3 M solns. of LiCl and NaCl and in 0.1 M KCl at 25-60° and at pH 3. At const. alkali chloride concn., k decreased with cations in the order Li > Na > K. It decreased also with increasing LiCl or NaCl concn. Apparently, alkali cations affect the orientation of water mols. around $IrCl_6^{4-}$. For 0.1 M LiCl, NaCl, and KCl, the activation energy of $IrCl_6^{3-}$ aquation is 25.3, 26.5, and 26.9 kcal/mole, resp. The activation energy decreased with increasing alkali chloride concn.

HMJR

REEL/FRAME
19710864

1/2   012   UNCLASSIFIED   PROCESSING DATE--13NOV70
TITLE--SULFUR VULCANIZATION OF RUBBERS -U-

AUTHOR-(05)-BLOKH, G.A., UTLENKO, YE.V., YUTILOV, YU.M., NAZPEYEV, A.A.,
   KISINA, L.I.
COUNTRY OF INFO--USSR

SOURCE--U.S.S.R. 263,133
REFERENCE--OTKRYTIYA, IZOBRET., PROM. OBRAZTSY, TOVARNYE ZNAKI 1970,
DATE PUBLISHED--04FEB70

SUBJECT AREAS--MATERIALS

TOPIC TAGS--SULFUR, VULCANIZATION, RUBBER, BENZIMIDAZOLE, CHEMICAL PATENT

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAME--3002/1477   STEP NO--UR/0482/70/000/000/0000/0000

CIRC ACCESSION NO--A0123876
                    UNCLASSIFIED

2/2   012
CIRC ACCESSION NO--AA0128876   UNCLASSIFIED   PROCESSING DATE--13NOV70
ABSTRACT/EXTRACT--(U) GP-0-   ABSTRACT.   SULFUR VULCANIZATION OF RUBBERS
WAS AIDED BY THE INTRODUCTION OF 0.1-5 WT. PERCENT BENZIMIDAZOLINE
ACCELERATORS (I) (R EQUALS ALKYL, ARYL, ARYLOXY, ALLYL, FURYL,
FURYLALKYLENE).

UNCLASSIFIED

USSR

PIROGOV, A. A., et al, Ogneupory, No 4, Apr 72, pp 6-10

conductance, and tentative service temperature are detailed in a table.
Future trends point to more effective methods of producing special porous
granulated fillers using distention and foaming. (2 illustrations,
1 table, 16 bibliographic references).

2/2

- 9 -

USSR

UDC 539.192/.194+535.33/.34.01

KRUMSHTEYN, Z. V., PETRUKHIN, V. I., SMIRNOVA, L. M., SUVOROV, V. M., YUTLANDOV, I. A.

"Investigation of the Character of the H-O Bond in Certain Oxygen-Containing Acids With the Aid of π−-Meson Capture by Hydrogen"

Issledovaniye khraktera svyazi H-O v nekotorykh kislorodsoderzhashchikh kislotakh s pomoshch'yu zakhvata π−-mezonov vodorodom (cf. English above), Joint Institute of Nuclear Research, Laboratory of Nuclear Problems, No. P12-5224, Preprint, Dubna, 1970, 10 pp, ill. (from RZh-Fizika, No 5, May 71, Abstract No 5D98)

Translation: The degree of ionicity of the H-O bond in sulfuric acid, nitric acid, phosphoric acid, boric acid, and oxalic acid was evaluated with the aid of π−-meson capture by hydrogen. Oxalic acid should belong to a group of stronger acids on the basis of the degree of the ionicity of the H-O bond.

1/1

USSR

MILOVANOV, V. P., POKROVSKIY, V. N., CHERENKOV, P. A., and YUTLANDOV, I. A.,
Physics Institute imeni P. N. Lebedev of the Academy of Sciences USSR

"Angular Dependence of Multicharged Particles Formed From Al^{27} Nuclei by 660-Mev Protons"

Abstract: The angular distributions of multicharged particles C^{11}, N^{13}, and F^{18} formed by bombarding Al^{27} nuclei with 660-Mev nuclei were measured. The measurements were conducted on the synchrocyclotron of the Nuclear Physics Laboratory of the Joint Institute of Nuclear Research. The fragment yield was measured at three angles relative to the direction of the proton beam. The target was aluminum foil 0.27 and 2.43 mg/cm^2 in thickness. The thickness of the first foil was considerably less than the mean free path of the fragments, which is approximately 4 mg/cm^2, while the thickness of the second foil was in order of magnitude equal to the mean free path of the fragments, so this target could not be considered as thin. Results showed that the thin and thick targets used gave practically the same angular distributions. The angular distributions

1/2

. USSR

MILOVANOV, V. P., et al, Yadernaya fizika, Vol. 12, No. 2, Aug 70, pp 234-238

of the multicharged particles decreased smoothly in absolute value with an in-
crease in the angle of observation. The average number of particles l formed
as the result of the reaction and the type of particles accompanying the escape
of a fragment is unknown. Curves are given showing the angular dependence
associated with the phase space for certain values of l. A tendency was ob-
served toward an increase in the average number of particles l with a decrease
in the mass of the fragment from 18 to 8 in the disintegration of Al^{27} nuclei
by 660-Mev protons. It turns out on the average that in the formation of one
of these multicharged particles in the final state there appears a total of
about 7 particles. This number of particles is approximately one third less
than the average number of particles formed in the disintegration of Ag and
Br nuclei by 660-Mev protons together with a fragment with $Z \geq 4$. The angu-
lar distributions of multicharged particles formed from Al^{27} nuclei by 660-
Mev protons is thus in good agreement with a dependence caused only by the
phase space. Further experiments plan to show to what extent the estimated
values of l correspond to the real values.

2/2

1/2   021   UNCLASSIFIED   PROCESSING DATE--13NOV70
TITLE--RELATIVE YIELD OF XENON ISOTOPES DURING THE IRRADIATION OF BARIUM
  BY 680 MEV PROTONS -U-
AUTHOR-(03)-LEVSKIY, L.K., MURIN, A.N., YUTLANDOV, I.A.

COUNTRY OF INFO--USSR

SOURCE--RADIOKHIMIYA 1970, 12(2), 409-10

DATE PUBLISHED-------70

SUBJECT AREAS--NUCLEAR SCIENCE AND TECHNOLOGY, PHYSICS

TOPIC TAGS--XENON ISOTOPE, BARIUM, IRRADIATION, SYNCHROCYCLOTRON

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAME--3005/1422   STEP NO--UR/0186/70/012/002/0409/0410

CIRC ACCESSION NO--AP0133374
                    UNCLASSIFIED

CIRC ACCESSION NO--AP0133374

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE RELATIVE YIELD OF XE ISOTOPES
FORMED BY SYNCHROCYCLOTRON BOMBARDMENT OF BACL SUB2 WITH 680-MEV P FOR
10 HR IS GIVEN FROM MASS SPECTROMETER MEASUREMENTS (PRIME130 XE EQUALS
1) AS 0.48-0.94 FOR PRIME124 XE, 1.33-1.34 FOR PRIME126 XE, 1.64-1.66
FOR PRIME128 XE, 1.64-1.67 FOR PRIME129 XE, 1.69-1.74 FOR PRIME131 XE,
AND 0.82-0.84 FOR PRIME132 XE.

UNCLASSIFIED   PROCESSING DATE--11SEP70

1/2   034
TITLE--ANTENNA -U-

AUTHOR--TERESHIN, O.N., YEROKHIN, G.A., YUVKO, A.N.

COUNTRY OF INFO--USSR

SOURCE--PATENT NO 263693
REFERENCE--MOSCOW, OKTRIYA, IZOBRET., PROM. OBRAZTSY, TOVARNYE ZNAKI NO 8,
DATE PUBLISHED-------70

SUBJECT AREAS--ELECTRONICS AND ELECTRICAL ENGR., PHYSICS

TOPIC TAGS--HORN ANTENNA, ANTENNA ENGINEERING, ANTENNA RADIATION PATTERN,
PATENT

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAME--1992/1094   STEP NO--UR/0482/70/000/000/0000/0000

CIRC ACCESSION NO--AA0112216
ZZZZZZZZZZZZZ   UNCLASSIFIED

CIRC ACCESSION NO--AA0112216
ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THIS AUTHOR'S CERTIFICATE
INTRODUCES AN ANTENNA MADE IN THE FORM OF A RECTANGULAR HORN. THE WALLS
OF THE HORN WHICH DIVERGE FROM THE WIDE WALLS OF THE FEEDER WAVEGUIDE
HAVE A RIBBED SURFACE FORMED BY TRANSVERSE GROOVES. TO PRODUCE A MESA
OR COSECANT SHAPED RADIATION PATTERN IN THE E PLANE, THE DEPTH OF THE
GROOVES IS VARIED OVER THE LENGTH OF THE ANTENNA, THE LAW OF THE RIB
ENVELOPE BEING CLOSE TO PARABOLIC.

ZZZZZZZZZZZZZ   UNCLASSIFIED

Acc. Nr.: _AP0040399_

Ref. Code: _UR 0108_

USSR

UDC 621.396.677.73

JPRS 50248

TERESHIN, O. N., YEROKHIN, G. A. and YUVKO, A. AN.

"Synthesis of Two-Dimensional Impedance Horn Antennas According to a Specific Distribution in the Aperture"

Moscow, Radiotekhnika, Vol 25, No 1, Jan 70, pp 63-69

Abstract: A method is outlined for the synthesis of impedance horn antennas according to the field distribution in the aperature. The relationship between the field distribution in the aperture and the required radiation pattern may be determined on the basis of relations known from the classical theory of radiation system sunthesis. Possible ways for specifying the field structure sat-isfying the wave equations and ensuring the possibility of select-ing any given field distribution in the aperture are analyzed. The method is illustrated by the synthesis of a horn antenna having a sector-shaped radiation pattern. The results are presented in graphs

Reel/Frame
_19741849_

4

AP0040399

in the form of relief and impedance functions, as well as radiation patterns (theoretical and experimenta). It is concluded that this method makes it possible to synthesize the horn antennas with impedance walls, whose experimental radiation patterns coincide well with theoretical ones. Orig. art. has 7 figures and 17 formulas.

19741850

USSR   UDC 621.396.677.73

TERESHIN, O. N., YEROKHIN, G. A. and YUVKO, A. AN.

"Synthesis of Two-Dimensional Impedance Horn Antennas According to a Specific Distribution in the Aperture"

Moscow, Radiotekhnika, Vol 25, No 1, Jan 70, pp 63-69

Abstract: A method is outlined for the synthesis of impedance horn antennas according to the field distribution in the aperature. The relationship between the field distribution in the aperture and the required radiation pattern may be determined on the basis of relations known from the classical theory of radiation system sunthesis. Possible ways for specifying the field structure satisfying the wave equations and ensuring the possibility of selecting any given field distribution in the aperture are analyzed. The method is illustrated by the synthesis of a horn antenna having a sector-shaped radiation pattern. The results are presented in graphs in the form of relief and impedance functions, as well as radiation patterns (theoretical and experimenta). It is concluded that this method makes it possible to synthesize the horn antennas with impedance walls, whose experimental radiation patterns coincide well with theoretical ones. Orig. art. has 7 figures and 17 formulas.
1/1

1/2   022   UNCLASSIFIED   PROCESSING DATE--27NOV70
TITLE--ANALYSIS OF THE CORRELATIONS BETWEEN GEOLOGICAL AND GEOPHYSICAL
PARAMETERS OF THE EARTH'S CRUST IN SOUTHERN TURKMENISTAN -U-
AUTHOR-(05)-ODEKOV, O.A., ZAKHAROVA, L.T., KESELMAN, S.I., MURADOV, CH.,
YUVSHANOV, A.
COUNTRY OF INFO--USSR

SOURCE--ASHKHABAD, IZVESTIYA AKADEMII NAUK TURKMENSKOY SSR, SERIYA
FIZIKO-TEKHNICHESKIKH, KHIMICHESKIKH I GEOLOGICHESKIKH NAUK, NO 3, 1970,
DATE PUBLISHED-------70

SUBJECT AREAS--EARTH SCIENCES AND OCEANOGRAPHY

TOPIC TAGS--EARTH CRUST, MOHOROVICIC DISCONTINUITY, GRAVITATION FIELD,
MAGNETIC FIELD

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAME--3008/0396   STEP NO--UR/0202/70/000/003/0083/0090

CIRC ACCESSION NO--AP0137488
                        UNCLASSIFIED

RE ACCESSION NO--AP0137488   UNCLASSIFIED   PROCESSING DATE--27NOV70
BSTRACT/EXTRACT--(U) GP-0-   ABSTRACT. IN SOUTHERN TURKMENISTAN THE DEPTH
TO THE MOHOROVICIC DISCONTINUITY CORRELATES WELL WITH THE GRAVITY FIELD
AND AGREES POORLY WITH THE MAGNETIC FIELD; IT AGREES SATISFACTORILY WITH
RELIEF OF THE EARTH'S SURFACE. THE BEST CORRELATION WITH DEPTH TO THE
MOHO IS WITH THE GRAVITY AND MAGNETIC FIELDS TOGETHER; RELIEF OF THE
EARTH'S SURFACE IN COMBINATION WITH THE GRAVITY FIELD ALSO IMPROVES THE
CORRELATION, BUT TO A LESSER DEGREE THAN IN THE PRECEDING CASE, BUT IN
COMBINATION WITH THE MAGNETIC FIELD THE STANDARD DEVIATION IS BETTER
THAN WHEN ONLY THE MAGNETIC FIELD IS TAKEN INTO ACCOUNT. IN A
GEOSYNCLINAL REGION THE CLOSEST CORRELATION BETWEEN DEPTH TO THE MOHO IS
OBSERVED WITH THE RELIEF OF THE EARTH'S SURFACE. AFTER COMPARING THE
MEAN SQUARE ERRORS AND VARIATIONS OF DEPTH TO THE MOHOROVICIC
DISCONTINUITY ONE CAN NOTE THAT IN THE GEOSYNCLINAL REGION THE DEPTH TO
THE MOHO CAN BE PREDICTED FROM RELIEF OF THE EARTH'S SURFACE; IN
PLATFORM REGIONS AND IN A ZONE OF DOWNWARPING IT CAN BE PREDICTED FROM
THE GRAVITY FIELD. WITH RESPECT TO OPERATORS OBTAINED BY COMBINING
GEOPHYSICAL PARAMETERS, IN ALL GEOTECTONIC REGIONS A SATISFACTORY
PREDICTION CAN BE MADE WHEN THE GRAVITY AND MAGNETIC FIELDS ARE TAKEN
TOGETHER.   FACILITY: INSTITUTE OF PHYSICS OF THE EARTH AND
ATMOSPHERE.

USSR

YUZBEKOV, R. A.

"Bending of a Physically Nonlinear Viscoelastic Circular Plate Under the Action of a Transversely Distributed Load"

V sb. Mekh. deformir. tverdykh tel (Mechanics of the Deformation of Solids -- Collection of Works), Baku, "Elm", 1970, pp 113-126 (from RZh-Mekhanika, No 9, Sep 71, Abstract No 9V536)

Translation: The problem of the deformation of a circular plate of viscoelastic material is considered where the material is subject to nonlinear relationships between the stresses and deformations

$$\left|\begin{array}{l} \dfrac{S_r}{2G_0}=l_r\,[1-\omega\,(\varepsilon_u)]-\displaystyle\int_0^t R\,(t-\tau)\,[1-\omega\,(\varepsilon_u)]\,l_r\,(\tau)\,d\tau \\[2mm] \dfrac{S_\varphi}{2G_0}=l_\varphi\,[1-\omega\,(\varepsilon_u)]-\displaystyle\int_0^t R\,(t-\tau)\,[1-\omega\,(\varepsilon_u)]\,l_\varphi\,(\tau)\,d\tau \\[2mm] \sigma=k\theta \end{array}\right.$$

1/2

- 137 -

USSR

YUZBEKOV, R. A., <u>Mekh. deformir. tverdykh tel</u>, Baku, "Elm", 1970, pp 113-126

where $\omega(\varepsilon_u)$ is a certain function of the intensity of the deformation ε_u, G_0 is the instantaneous shift modulus, k is the modulus of volumetric deformation; σ is the average stress and the universal function $R(t)$ is considered given from experiments on relaxation

$$S_r = \sigma_r - \sigma, \ S_\varphi = \sigma_\varphi - \sigma, \ l_r = \varepsilon_r - \varepsilon, \ l_q = \varepsilon_\varphi - \varepsilon$$

Two cases of reinforcing the external contour of the plate are considered: rigid and hinged. The solution of the problem is based on the sequential approximation method. The solution for $\omega = 0$ (the linear case) is taken as the first approximation. The solution for the linear viscoelastic case was obtained approximately from the corresponding elastic solution on the basis of the correspondence principle and by using the Il'yushin method of approximations. Formulas for deflections for the second approximation were obtained in both methods of reinforcing. It is shown that one can also find subsequent approximations by an analogous method. L. Kh. Papernik.

2/2

USSR   UDC 612.1 UNCLEAR ./11+591.111

LIKHACHEV, A. I., IEGEN, I. L., and YUZEFOVICH, G. M.

"The Effects of an Alternating Magnetic Field on Skin Permeability"

Baku, Izvestiya Akademii Nauk Azerbaydzhan SSR, No 3, 1972, pp 99-102

Abstract: The effects of an alternating magnetic field (AMF) on the permeability of human skin to Evans blue dye were studied with 2 groups of people. One group (18 women, 7 men, 18-44 years old) received 0.5 ml of 0.5% Evans blue intracutaneously into the lower third of the shank on one leg. The leg was positioned between electromagnetic terminals, with the injected area in contact with terminal surface. That leg was exposed to AMF for 5 minutes under the following conditions: 450 oersted field, 73 mm gap, and current potential of 220 V and 50 cps. The other leg served as a control; it was similarly located but the current was not applied. Another group of 25 subjects was injected with Evans blue that had previously been subjected to AMF under the conditions described. The diameters of the dye spots were measured immediately after injection and 24 h following AMF treatment. Analysis of the results showed that AMF increased tissue permeability to Evans blue in both groups;

1/2

USSR

in the second group, the AMF pretreated dye was resolved more rapidly. The latter effects were presumably due to delocalization of the Pi electrons on the dye molecule. The more rapid spread of dye through the cutaneous tissues was presumably due to the direct effects of AMF on capillaries and on the reflex vasodilatation mechanism.

2/2

1/2   017
UNCLASSIFIED
TITLE--HEAT TREATMENT OF DIES AND MOULDS MADE OF CHROMIUM MANGANESE STEEL
PROCESSING DATE--30OCT70
7KHGSVM -U-

AUTHOR-(03)-YUZEFPOLSKY, Z. SH., RALKO, V.S., SAVINOVSKY, G.K.

COUNTRY OF INFO--USSR

SOURCE--METALLOVEDENIE I TERM. OBRABOT. METALLOV, 1970, (2), 70-71

DATE PUBLISHED-------70

SUBJECT AREAS--MATERIALS, MECH., IND., CIVIL AND MARINE ENGR

TOPIC TAGS--CHROMIUM MANGANESE STEEL, STEEL HEAT TREATMENT, STEEL
MANUFACTURE PROCESS, STEEL QUENCHING, MOLDING MATERIAL, DIE
STEEL/(U)7KHG2VM CHROMIUM MANGANESE STEEL

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAME--2000/0138
STEP NO--UR/0129/70/000/002/0070/0071
CIRC ACCESSION NO--AP0123910
UNCLASSIFIED

CIRC ACCESSION NO--AP0123910   UNCLASSIFIED   PROCESSING DATE--30OCT70

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE ADVANTAGES OF CR MN STEEL
7KHG2VM STEEL FOR THE MANUFACTURE OF DIES AND MOULDS, PARTICULARLY
COMPLICATED PATTERNS USED IN THE PRODUCTION OF POLYMER PARTS, ARE
DESCRIBED AND DISCUSSED. IT ORDER TO ENSURE GOOD QUALITY MATERIAL IT IS
ESSENTIAL TO PAY SPECIAL ATTENTION TO THE CONDITIONS OF HEAT TREATMENT.
THUS, FOR EXAMPLE, AFTER ORDINARY QUENCHING AND TEMPERING AN ADDITIONAL
PERIOD OF HEAT TREATMENT AT 300 DEGREESC FOR 3 H IS REQUIRED IN ORDER TO
ALLEVIATE MARTENISITE ENGENDERED INTERNAL STERSSES; NO RAPID COOLING
SHOULD BE ALLOWED.

UNCLASSIFIED

YUZEPCHUK, S.A.

Econ

ASSEMBLY WORK RESERVES DESCRIBED

[Article by S. A. Yuzepchuk, Candidate of Economic Sciences: "Reserves ::
Growth of the Effectiveness of Assembly Line Work", Novosibirsk, Izdatel-...
... Organizatsiya Promishlennogo Proizvodstva, Russian, No 5, 1971,
pp 59-60]

Improving the effectiveness of social production and the growth
of labor productivity are the main economic tasks in the current stage
of communist building. Their implementation calls for the utilization
of all reserves within the Ussk national economy, including those in
a major sector such as machinebuilding.

In 1969 the share of the entire machinebuilding and metal processing
output was 28 percent; the number of workers was 35 percent and the vol-
ume of capital assets, 19.7 percent of the respective Soviet industrial
indicators as a whole. It may be assumed that by virtue of the priority
rates of development of machinebuilding, its role in the national econ-
omy of the country will increase even further in subsequent years.

Due to the fact that the pace of scientific and technical progress
in machinebuilding is higher than in a number of other branches, here
systematically particularly extensive possibilities for upgrading pro-
duction effectiveness arise. For example, with the annual mastery of
the production of 5,000 different types of machines, equipment and
instruments, the need for considerably reducing labor and material out-
lays arises continuously, as we convert to the serial manufacturing of
new goods.

The study of the technical-economic level of assembly line work
in machinebuilding and the prospects for the development of the branch
for the next decade indicate that upgrading the effectiveness of
assembly line work on the basis of specialization, and introducing new
technology, mechanization and automation represent major factors for
the growth of the effectiveness of machinebuilding and of the entire
industry.

- 32 -

5003
CSOI 1820-5

the implementation of the recommended suggestions would enable us to upgrade social production effectiveness through increased labor productivity and improved utilization of capital assets and the quality of output in machinebuilding sectors.

All-Union Correspondence Finance-Economics Institute, Moscow.

- 40 -

USSR

UDC   681.325.65

DUBITSKIY, L. A., SHVETSKIY, B. I., YUZEVICH, Yu. V.

"Ways to Provide a Wide Dynamic Range in a High-Speed Analog-Digital Converter"

Taganrog, Region. nauch.-tekhn. seminar po stat. analizu modelir. i avtomatiz. kontrolya ob"yektov s konstrukt. slozhn. strukturoy--sbornik (Regional Scientific and Technical Seminar on Statistical Analysis, Modeling and Automated Monitoring of Objects With a Structurally Complex Design--collection of works), vyp. 6, 1972, pp 86-90 (from RZh-Avtomatika, Telemekhanika i Vychislitel'naya Tekhnika, No 11, Nov 72, abstract No 11B310)

Translation: The paper deals with problems of constructing an analog-digital converter providing signal conversion in the 0-100 kHz range, which corresponds to a rate of variation of up to 10^7 V/s in the dynamic range of 80 dB (from 1 mV to 10 V of either polarity) with a conversion time of 5 µs and an error of about 1%. The device consists of an input unit containing a number of scaling amplifiers, a coding converter which includes comparison circuits, a channel-selection logic unit, an analog signal commutator, a high-speed analog-code converter in the pulse-time mode with a narrow dynamic

1/2